

Work Order ID 84838

84838

Page 1

May-24-12 7:57:20 AM

Item ID: D206-642-341

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 24/05/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 07/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12/05/28

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2650

F

100

0.00

100

DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy bluefile and create labels per PPP D206-642-341 CHG003

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Process Plan:

Date:

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Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00

110

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Deburr Fwd edge of tube

2-Remove ridge on inside of Fwd edge of tube as per Dwg D2650

3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required.

A/R Aluminum Rod M120/64

4-Grind weld flush to cap on top surface only.

5-Cut aft end to length as per dwg D2650

6-Drill pilot holes using drill Jig DT8168A (A, & B) and DT8025. Open to Ø.312"

7-Drill holes for wearplates using DT 8028-5. Open to Ø 0.297".

8-Open Aft Cap Hole using #6 Drill Bit

9-Open holes for Tow Ring to Ø0.625" as per Dwg D2650, D2650-5 Drilling Detail

10-Remove inner indexing ridge on aft end of skidtubes as per Dwg D2650

11-Deburr and Blow out all chips from inside the tube

> CF 12.5.29

> DEF 05-27

> CF 12.5-30

W/O:		WORK ORDER CHANGES					
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Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
115 *115* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00		8.2105/31					
120 *120* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00							1 7/5 12-5-31
125 *125* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.00							DP 12-6-1

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 07/06/2012 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Skidtubes	0.00							
130									
Skidtubes	Memo	0.00							
Skidtubes	1-Open holes to finished size as per Dwg D2650, D2650-5 Drilling Detail (without cutting fluid)								
	2-Countersink crossbolt spacer holes as per Dwg D2650(without cutting fluid)								
	3-Deburr. Blow out chips. Grind alodine off around crossbolt spacer.								
	4-Bond D2654-5 web in place as per QSI 015 Ensure holes line up Allow 12 Hrs. cure time before cutting Start Date: <u>12-6-7</u> Time: <u>12:40</u> Finish Date: <u>12-06-12</u> Time: <u>9:00</u> A/RSikaflex-291 <u>m12/04/09</u> Sikaflex expiry date: <u>13-4-12</u>								
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.00							
Quality Control									

CF 12-6-4

CF 12-6-7

1 0 86 12/06/12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Skidtubes	0.00							
150									
Skidtubes	Memo	0.00							
Skidtubes	1-Prep per QSI 005 and Insert cross bolt spacers D2649. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod A/RAluminum Rod <u>M120164</u>								
	2-Grind welds flush as per Dwg D2650. Masking Tape access to inside of the Skidtube								
	3-Counterbore 5/16" x 0.750" deep as per Dwg D2650Deburr								
	4- Install nut plate as per dwg								
170	QC10- Inspect visual per QSI004- ground welds	0.00							
170									
QC	Memo	0.00							
Quality Control									

DP 12-6-12

SAD 12-6-13

DP 12-6-12

Srzelup

Dart Aerospace Ltd

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Sabadiy

Quality Control

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Brush alodine tube on crossbolt spacer area, do not acid etch, do not dip tube in tank.

1 12/6/14

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

*7:30
320 OF
8:00*

IX 12/06/15

M121134

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Required Date: 07/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

210

QC3- Inspect Part Finish

0.00

210

QC

Memo

0.00

Quality Control

1x 1 12/06/18

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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1

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Required Date: 07/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

0.00

220

HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate.

A/RSikaflex-291 11121409Sikaflex expiry date: 13103

2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D2650. Clean excess adhesive

3-Install MS27039-4-06 Screw

4-Inspect for foreign object per QSI 024

5-Install D2646 Aft Cap and seal with SikaflexClean excess adhesive

A/RSikaflex-291 11121409Sikaflex expiry date: 13103

6-Wing Walk as per Dwg D2650-5 and QSI 005 4.4

Batch: 11121409ix d ll 110611

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Required Date: 07/06/2012 Req'd Qty: 1.00

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Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

230

QC3- Inspect Part Finish

0.00

230

QC

Memo

0.00

Quality Control

240

QC5- Inspect part completeness to step on W/O

0.00

240

QC

Memo

0.00

Quality Control

250

Packaging

0.00

250

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-642-341

Location:

PPP Rev:

PAA 84834

Dart Aerospace Ltd

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Required Date: 07/06/2012 Req'd Qty: 1.00

1

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Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

260

QC21- Final Inspection - Work Order Release

0.00

260

QC

Memo

0.00

Quality Control

CK 12/7/13

ME
12-07-12

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Parent Item: D206-642-341

D206-642-341

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev: H05.10.11Added D3429-1 per CHG004KJ/CP/JLM
IPP Rev: I 08-09-29 revF as per dwg DD verified by: EC Est Rev: J 09-03-02 as per DSI9440 rev.a DD verified by: EC IPP rev K 10.08.03 chg ms27039-1-08 for "C" type EC verified by DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN960JD416 Washer	NAS1149D0463J	Purchased	No				Each	30.0000		1			
AN960JD416													
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				ST351		30							
				116289		10							
				119097		20							
CCR264SS3-3 Cherry Rivet		Purchased	No				Each	364.0000		2			
CCR264SS3-3													
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				ST331		364							
				113973		2							
				117849		81							
				119017		281							
CR3212-4-03 Cherry Rivet		Purchased	No				Each	1,278.000		2			
CR3212-4-03													
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				FP002		350							
				114859		350							
				ST331		928							
				110139		2							
				119017		926							

11121912

**

(x1) Hl nlocif

**

DP 12-6-12

**

DP 12-6-12

(2)

(2)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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D206-642-341

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2620

Manufactured No

Each

17.0000

1

D2620

Skidtube, 206 Skidtube

**

CF 12-5-29

Location

Loc Qty

Loc Code

LG

17

79543

2

79544

1

81365

1

82517

3

82518

10

Each

79.0000

1

D2647

Manufactured No

D2647

Cap

**

BE 12-05-29

Location

Loc Qty

Loc Code

LG002

79

75482

3

79563

76

W/O:		WORK ORDER CHANGES					
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D206-642-341

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

Each

415.0000

19

D2649

Cross Bolt Spacer

**

BE 12/06/12

Location

Loc Qty

Loc Code

LG

272

77574

2

79502

8

79503

251

79564

4

79565

7

LG001

143

65317

1

68224

2

68507

11

71355

2

72704

2

72841

11

73390

8

73857

21

73858

53

73859

4

73860

4

78020

6

78583

2

79566

16

19

D2654-5

Manufactured No

Each

1.0000

1

D2654-5

Web

**

1

CF 12.7.12

Location

Loc Qty

Loc Code

LG

1

82128

1

B85209

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Shop Packet Print

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CF

W/O:		WORK ORDER CHANGES					
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84838

D206-642-341

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

Each

87.0000

D2680-041

Nut Plate

**

1 DD 12-6-12

Location

Loc Qty

Loc Code

ST013

87

78016

87

Each

1,733.000

MS27039-1-08

Purchased

No

MS27039-1-08

Screw

**

2 7 12/06/18

Location

Loc Qty

Loc Code

ST291

1733

117423

81

119075

1

120308

594

121011

57

121243

500

121708

500

MS27039C1-08

Purchased

No

MS27039C1-08

SCREW

Each

1,022.000

**

54

7 12/06/18

Location

Loc Qty

Loc Code

FP002

1

116022

1

ST292

1002

120308

354

121068

108

121162

540

ST293

19

116373

3

118077

14

119309

2

85-1

May-24-12 7:57:24 AM

Shop Packet Print

Page 4

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:57:24 AM

Page 5

Work Order ID: 84838

Parent Item: D206-642-341

Parent Item Name: Replacement Skidtube

84838

D206-642-341

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

220

Each

3,051.000

54

54

AI S4-1032-130

Insert

**

91 12/06/18

Location

Loc Qty

Loc Code

ST280

205

119084

116

120671

89

ST281

124

120807

36

120837

88

ST282

2722

121269

2722

x54

AN960C10L

NAS1149C0332

Purchased

No

220

Each

0.0000

54

54

*AN960C10I * *

washer

x122063

**

(x54) 12/06/18

AN960JD10L

NAS1149D0332J

Purchased

No

220

Each

0.0000

2

2

*AN960JD10I * *

Washer

x1171011

**

(x2) 11/06/18

D2646

Manufactured

No

220

Each

32.0000

1

1

D2646

Aft Cap

**

12/06/18

Location

Loc Qty

Loc Code

FP002

32

62678

5

68280

5

70945

1

71070

2

73294

1

73825

2

78018

4

79562

12

1381974

x1

May-24-12 7:57:24 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:57:24 AM

Page 6

Work Order ID: 84838

Parent Item: D206-642-341

Parent Item Name: Replacement Skidtube

84838

D206-642-341

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2651-1

Manufactured No

220

Each

439.0000

14

14

D2651-1

Plug

**

12/06/18

Location

Loc Qty

Loc Code

FP

200

FP001

425

57869

1

66445

10

69018

2

70827

2

70839

8

71037

8

77559

30

78584

18

79234

46

FP-A

-186

77559

1

78124

5

81954

108

82573

200

X6

X8

D2651-3

Manufactured No

220

Each

1,246.000

14

14

D2651-3

O-Ring

**

12/06/18

Location

Loc Qty

Loc Code

FP001

16

61962

12

73828

4

FP-A

1230

78126

1230

X14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:57:24 AM

Page 7

Work Order ID: 84838

84838

Parent Item: D206-642-341

D206-642-341

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3535-11

Manufactured No

220 Each

16.0000 1 1

D3535-11

Wearshoe

**

Handwritten: 12/06/18

Location

Loc Qty

Loc Code

FP001

16

82153

16

D3535-23

Manufactured No

220 Each

18.0000 1 1

D3535-23

Wearshoe

**

Handwritten: 12/06/18

Location

Loc Qty

Loc Code

FP001

18

81355

1

83375

17

D3535-35

Manufactured No

220 Each

30.0000 1 1

D3535-35

Wearshoe

**

Handwritten: 12/06/18

Location

Loc Qty

Loc Code

FP001

30

67598

1

70815

1

78873

13

79849

1

82064

1

83638

13

Handwritten: x1

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

May-24-12 7:57:24 AM

Page 8

Work Order ID: 84838

84838

Parent Item: D206-642-341

D206-642-341

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3536-11

Manufactured No

220

Each

16.0000

1

1

D3536-11

Gasket

**

u 12/06/18

Location

Loc Qty

Loc Code

FP002

16

46649

1

46715

4

65574

1

80006

1

82152

9

X1

D3536-23

Manufactured No

220

Each

12.0000

1

1

D3536-23

Gasket

**

u 12/06/18

Location

Loc Qty

Loc Code

FP002

12

B85295

74510

1

83377

11

✓

D3536-35

Manufactured No

220

Each

17.0000

1

1

D3536-35

Gasket

**

u 12/06/18

Location

Loc Qty

Loc Code

FP002

17

81340

6

82065

11

✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

May-24-12 7:57:25 AM

Page 9

Work Order ID: 84838

84838

Parent Item: D206-642-341

D206-642-341

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

220

Each

79.0000

6

6

D3537-1

Wearpad

**

u 12/06/18

Location

Loc Qty

Loc Code

FG

10

~~D31 B71689~~ x 6

79833

10

B 83256

FP002

69

69817

5

81360

38

81362

22

83254

1

83255

3

D3537-3

Manufactured No

220

Each

24.0000

1

1

D3537-3

Wearpad

**

u 12/06/18

Location

Loc Qty

Loc Code

FP002

24

78836

3

81363

21

x 1

MS27039-4-06

Purchased No

220

Each

131.0000

1

1

MS27039-4-06

Screw

**

u 12/06/18

Location

Loc Qty

Loc Code

ST292

131

119075

131

x 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 84838 MLJ
12/05/28

RELEASED
08-23-17

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- 12) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- 13) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	RMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	06.03.30
D	REDRAW; INCCRP. DE09136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

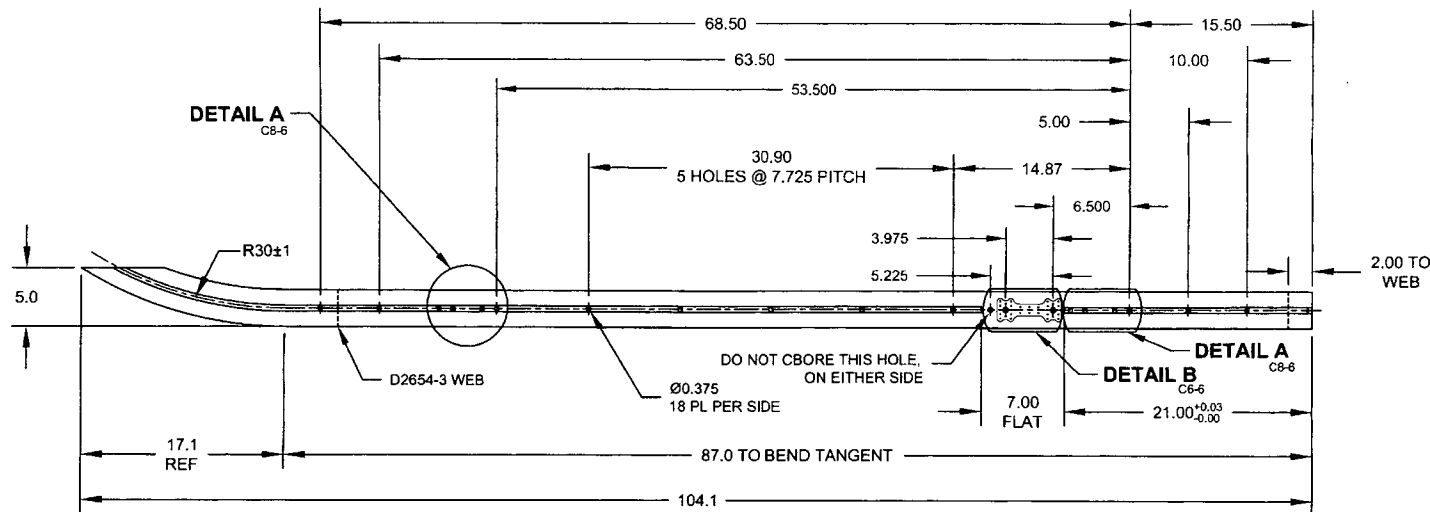
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

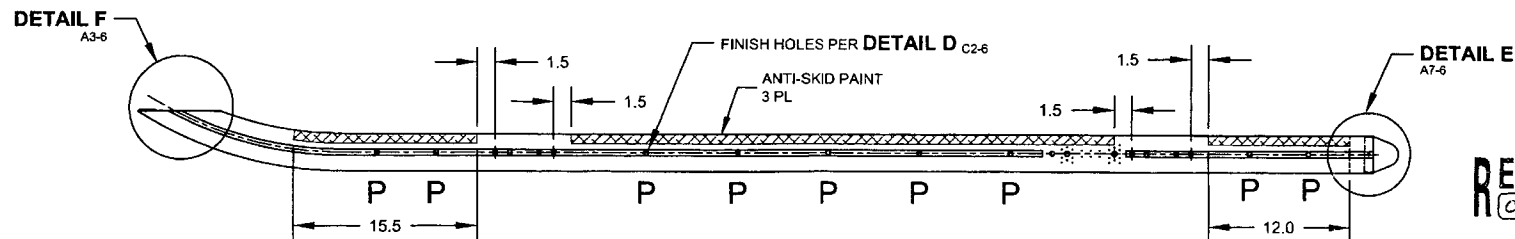
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-3 BENDING/DRILLING DETAIL



D2650-3 ASSEMBLY/FINISHING DETAIL

RELEASED
05 07 22 118

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DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 3 OF 6
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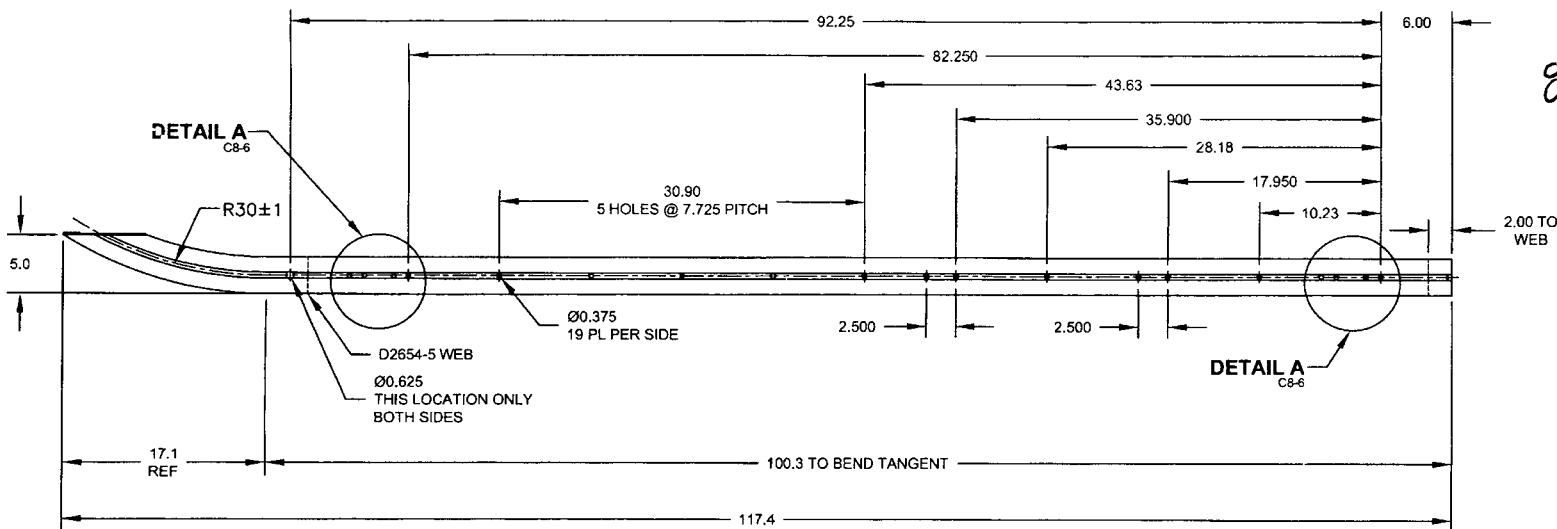
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

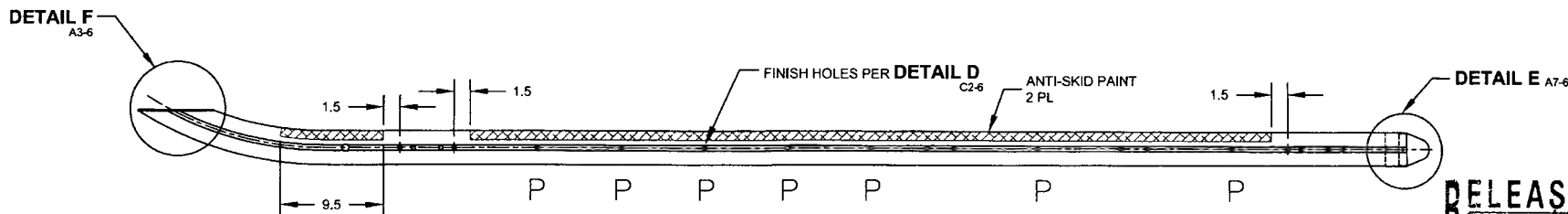
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-5 BENDING/DRILLING DETAIL



D2650-5 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED	J	DRAWING NO.	REV. F
MFG. APPR.	E	D2650	SHEET 4 OF 6
APPROVED	JP	TITLE	SCALE
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08-22-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

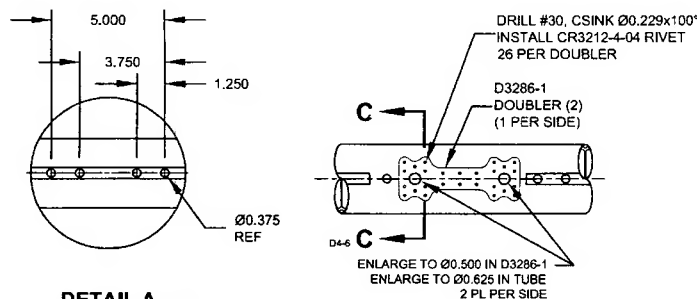
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

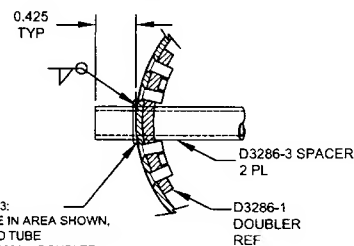
84839



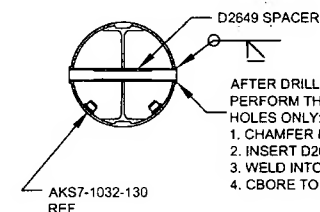
DETAIL A
SCALE 2X
C2-2
D7-2
C2-3
D7-3
C2-4
D7-4
C2-5
D6-5

DETAIL B
SCALE 2X
C3-2
C3-3

SECTION C-C C7-6
SCALE NONE

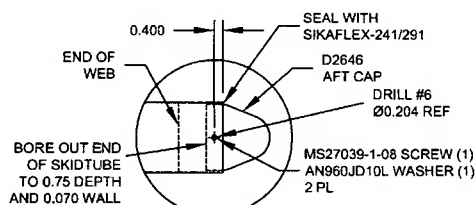


- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.030x45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE.

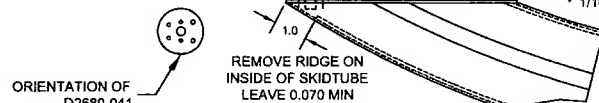


DETAIL D
FOR Ø0.375 HOLES ONLY
SCALE 3X
B4-2
B4-3
B4-4
B4-5

- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.030 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORER TO Ø0.313 X 0.75 DP



DETAIL E
SCALE 2X
B2-2
B2-3
B1-4
B1-5



DETAIL F
SCALE NONE
B8-2
B8-3
B8-4
B8-5

DETAIL F NOTES:

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS NECESSARY)
4. WELD D2647 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

RELEASED
08-09-2018

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 297

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: 80951
Part #: A206-642-151
Description: Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Penetration:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Fusion:	pass[<input checked="" type="checkbox"/>]	fail[]
Cracks:	pass[<input checked="" type="checkbox"/>]	fail[]
Overlap (cold lap)	pass[<input checked="" type="checkbox"/>]	fail[]
Undercut:	pass[<input checked="" type="checkbox"/>]	fail[]
Pin holes:	pass[<input checked="" type="checkbox"/>]	fail[]
Porosity (surface):	pass[<input checked="" type="checkbox"/>]	fail[]
Coloration:	pass[<input checked="" type="checkbox"/>]	fail[]
Burn through:	pass[<input checked="" type="checkbox"/>]	fail[]

Qualifier David Hand Date of Test Coupon 12.06.13
Welder Barclay Elliott Date of Test Coupon 12.06.13

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

